

ABSTRACT:

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A fault current limiting circuit for limiting fault current in a polyphase electric circuit is disclosed. The fault current limiting circuit comprises a first electrical connection means for connection between a common or neutral point of the polyphase circuit and ground; and a second electrical connection means between the common point and ground. The first electrical connection means comprises an actuatable current limiting means having a first state where current will pass through the current limiting means, and a second state where current will not pass through the current limiting means. The first electrical connection means further comprises an actuating means to switch the current limiting means from the first to the second state when current through the current switching means exceeds a pre-determined maximum percentage of the steady-state load current through the polyphase system. The second electrical connection means comprises an electrical impedance significantly greater than the impedance of the first electrical connection means when the current limiting means is in the first state. The circuit is particularly suitable for use in conjunction with a three phase system that is substantially balanced. Thus, in normal balanced operation, any current flowing through the fault current limiting circuit will flow through the first electrical connection means. In the presence of a fault, any current through the fault-current limiting circuit flows through and is limited by the second electrical connection means. The current limiting and actuating means preferably comprises a fuse or circuit breaker which will pass up a selectable maximum current which may be chosen as a percentage of steady-state load current of the three phase system.